

# Bulletin

of the Rutherford Appleton Laboratory

6 June 1983 No.8

## Atlas is Back

Twenty years after the installation at Chilton of the first Atlas computer, the new ICL Atlas 10 was inaugurated on Monday 16 May as a "back-end" machine complementing the IBM 3081D, which entered service in mid 1982 with the 'front-end' role in the SERC's Central Computing complex. The Atlas 10 arrived on site on 10 April, was installed in three days and bench-marked in four—a remarkable feat.

The ICL Atlas 10 is one of the most powerful IBM compatible computers in the world. It was chosen, explained Dr Manning (Director RAL) because it has been seen to be cost effective and one of the most powerful general purpose machines on the market. It performs well on the SERC workload and will provide general purpose computing in support of UK university research, particularly the data analysis associated with SERC and other central facilities.

Speaking before a large audience in the Atlas Coffee Lounge the Director outlined the early history of computing on site, and the rapid growth of the facilities, which had been needed to provide the computing power that the scientific community has come to be expected from the Atlas Centre.

Jack Hewlett (ex-director Computer Laboratory) also looked back to the early days, making comparisons of the physical size, capacity and speed of the old and new. The Atlas 10 is 15 times faster, has a vastly enlarged storage capacity, took one lorry to transport to RAL as opposed to 29 for the first Atlas, and cost a tenth of the price.

Dr O B von Bulow (Director ICL Atlas Division) made an amusing and entertaining speech, in the course of which he "sold" Dr Manning a pair of scissors with which to cut the "inaugural ribbon" (an old Norse custom). "Today represents a symbolic link with the past for both SERC and ICL" he said and he looked forward to a long and successful collaboration in the future."



Pictured in happy anticipation of a successful venture (from l to r), Dr Geoff Manning, Dr Olaf von Bulow, Professor Bob Hopgood and Mr Jack Howlett.

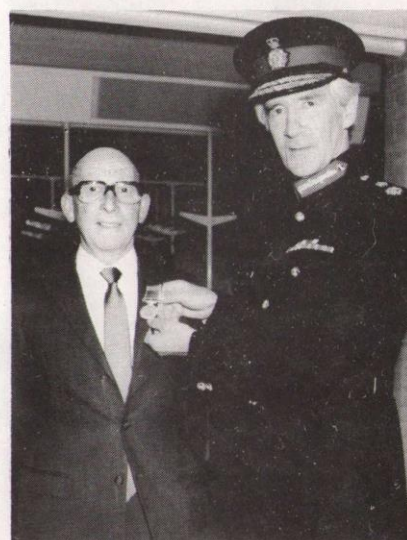
## BEM for Bill Russett

Mr W G A (Bill) Russett, awarded the British Empire Medal in the New Year's Honours Lists, was presented with his Medal by the Lord Lieutenant of Oxfordshire, Sir Ashley Ponsonby Bt, MC at a special ceremony held in the RAL Coffee Lounge on Tuesday 3 May.

Present at the Ceremony was Mr Russett's wife Hilda their daughters Lynn, Moya and Anne, grandchildren Andrew, Tracy, Timothy and Stephen other members of the family, friends and colleagues.

Dr Geoff Manning, Director RAL, introduced the Lord-Lieutenant and Lady Martha to the assembled guests, and the citation was read.

Before presenting the award, Sir Ashley expressed his pleasure in being privileged to do so. He spoke of the importance of team-work and of the key-men who provide the background of sophisticated expertise in a research team. The importance of Mr Russett's work in this respect, he said, had been recognised on this occasion. "I am commanded by Her Majesty the Queen to present you



The Lord Lieutenant presenting the BEM Medal to Mr Russett. 83RB2609

(cont'd over)



# INTERNAL Events

## HEP SEMINARS

R61 CONF RM - 1100hrs

- 8 June Dr N Isgur/Oxford  
'A Review of Quark Model Calculations for Proton Decay'
- 15 June Prof D H White/Brookhaven  
' $\nu_e$  Elastic Sattering'
- Please note: 2pm Lecture Theatre

## NIMROD LECTURES

R61 CONF RM - 1400hrs

- 14 June Dr A Skuja/Maryland  
'Two Photon Physics with the Pluto Detector'
- 20 June Prof F Vannucci/Lab de Phys Nucl des Hautes Energies  
'Massive Neutrinos'

## CONDENSED MATTER SEMINARS

R3 CONF RM - 1330hrs

- 7 June P Wohlfarth/Imperial  
'Metallic Magnetism at High Pressure'
- 14 June R Catterall/Salford  
'Solvated Alkali Metal Atoms'
- 21 June V J Morris/ARC Norwich  
'Polysaccharides which Gel and Thicken'

## COMPUTING DIVISION SEMINARS

COLLOQUIUM - ATLAS CENTRE - 1515hrs

- 21 June Prof R F Churchouse/Cardiff  
'The Representation of a Number by the Sum of Mixed Powers'

## BEM (cont'd from p1)

with this Medal, with Her Majesty's good wishes" he said on presenting Mr Russett with the Medal.

The Lord Lieutenant also presented a bouquet to Mrs Russett, "confident that her work had been equally important."

Bill's present work as an electrician in the Physics Apparatus group of Instrumentation Division, takes him to CERN and DESY frequently, where not only his skill as a craftsman, but his sociable nature and organising ability is much appreciated by his colleagues.

At home in Upton he is both gardener and do-it-yourself man. The village too has benefited by his interest in local events and he has served on committees and assisted with matters concerning the village hall.

## CHASE Astronauts at RAL

Six American Space Shuttle astronauts on a training visit to the UK, recently spent two days at RAL getting their first look at the CHASE (Coronal Helium Abundance Spacelab Experiment) instrument, which they will operate on board the Shuttle due for launch in 1985.

The CHASE instrument built jointly by Rutherford Appleton Laboratory and the Mullard Space Sciences Laboratory of University College, London, is designed to measure, with high precision, the ratio of the amount of Helium to the amount of Hydrogen in the outer atmosphere

of the Sun (Corona), by observing the way in which light from the surface of the Sun is scattered in the solar atmosphere.

Current theories maintain that the proportion of Helium in the Universe has not changed significantly since its creation in the 'big-bang'. Furthermore conditions at the Sun are believed to represent this abundance today. CHASE by making more accurate measurements than ever before, should help us to understand the early state of the Universe and the formation of stars like the Sun.

CHASE will be carried by the Space Shuttle during a flight in March 1985 and during the seven-day flight will be operated from the flight deck by scientist astronauts (Payload Specialists), who are members of the Shuttle crew.

Of the six astronauts, four are payload specialists (two of whom will be selected for the flight) and two mission specialists (astronauts with specialised knowledge of the Shuttle). Unlike previous manned space flights, the payload specialists are not full-time astronauts, but professional physicists who will be taking time out from their normal activities in order to receive astronaut training and participate in the Shuttle flight. In order to learn the various intricacies of this and all other instruments they will be required to operate, the payload specialists are visiting, in turn, each of the institutions which have provided experiments for this flight.



The visiting astronauts. Seated either side of Dr Alan Gabriel (Head S & A Division) are Dianne Prinz and Anthony England. Standing behind are (l to r) George Simon, Loren Acton, Karl Henize and Bruce Patchett (RAL, project scientist).

83RB2527



# IRAS Finds New Stars

Following the recent discovery of the IRAS-Araki-Alcock comet, further important observations have now been announced by the IRAS team. They have discovered two regions where stars like our Sun are being born. The regions are within dark dust clouds in our own Galaxy and several very young stars, called protostars, were detected by the telescope on IRAS.

The protostars are no more than one million years old and are just now coalescing out of the dust and gas clouds. According to astronomers, the newly discovered protostars are much like the Sun was during its early stages of formation 4.6 billion years ago. The discoveries are among the first of protostars that will become low-luminosity stars like our Sun.

The stars were spotted in IRAS telescope scans across two dark clouds of dust and gas called Barnard 5 and Lynds 1642. As many as five protostars may be forming within Barnard 5, and one or two within Lynds 1642.

## Professor Houghton

### for Met. Office

Professor John Houghton is to become director-general of the Meteorological Office. He will take up this appointment on 1 October 1983.

Professor Houghton, Professor of Atmospheric Physics at Oxford University, and deputy Director, RAL, worked at Farnborough in the 1950s before going to Oxford. He was elected to the Royal Society in 1972, has chaired the British National Committee for World Climate Research Programme since 1976, and its joint scientific committee since 1981.

We wish him well in his new post.

## Tech. Lecture Transcripts

Both Dr J E Harries and the Library have copies of the recent RAL Technology Lecture entitled "Technical Innovation and the British Economy" given by Professor Freeman of the Science Policy Research Unit, University of Sussex on 5 May 1983, if anyone would like to read these.

Because the objects are like the early Sun, it is believed that incipient solar systems of planets could also be forming around the young stars.

Stars form out of nebulae - dense clouds of gas (mostly hydrogen and helium) and small dust particles. Fragments of these clouds collapse into protostars, attracting the surrounding material. As the protostar gains mass from the cloud, gravity packs the material tighter in its core. When pressure, density and resulting temperature grow high enough, the core of the protostar glows in infrared light. Eventually the temperature and density of the infalling material reaches the critical point where thermonuclear fusion begins and a new star has been created. The star is still enshrouded in the placental gas and dust so that only a faint infrared glow is detectable by IRAS. In less than a million years, radiation and strong stellar winds clear away the surrounding material and the new star can be seen in visible light.

IRAS observations of protostars will help to determine what processes initiate star formation, and help to explain the conditions under which the solar system formed.

## Film Badge Notice

It is PERIOD 6, Colour Strip BLUE. Please check that you are wearing the correct dosimeter and that all old ones are returned.

Next Film Issue

Monday 20 June.

## Missing

The following item is the subject of a loss report. Please send information concerning the item to V R Pancott ext 6678/6810 Texas II 58 calculator. Missing from Rm 1.4, R51.

M L Yates, Ext 6120 would like information regarding the whereabouts of COMARK Multimeter type 130, Ser no 347 and Stanley Sabre Saw type 463, Ser no 10373.

## Sales to Employees

The sale of scrap metal and plastic will take place (subject to the usual conditions) on 17 June at the R40 scrap compound from 1200-1230hrs.



The next lecture in this series will be held on Thursday 16 June at 3.15pm in the Lecture Theatre.

ENERGY IN THE WORLD

by

Professor Sir Hermann Bondi

NERC

In giving a lecture on the topic of energy, Sir Hermann realises that he is discussing a subject about which there has been much debate during the last eight years. The concentration on this topic can be explained as the characteristic reaction on realising that an essential could no longer be taken for granted. Energy as a defined physical quantity is something for which no substitute can exist. However, we should also appreciate that energy is not an end in itself; what we require are those things that need energy to provide them - warmth, transport, steel for example. Since the quantity of energy required to supply these items is by no means fixed, the potential exists for saving energy - or to speak more sensibly - for being more reasonable in the use of energy. This has however, two quite separate meanings. Sir Hermann expands this theme.

## Christian Fellowship

The June Programme of RAL Christian Fellowship meetings is given below.

All are very welcome to join us.

June 9 Bible Study -  
Martin Steel

16 Taped presentation -  
John Hogston

23 Bible Translation -  
John Savage

30 Fellowship -  
Margaret Summers/  
Kathleen McCarthy

## Library Notice

Both copies of Mead and Conway Introduction to VLSI systems have disappeared from R61. Please can they be returned to the Library as soon as possible.

## Thanks

Bill and Hilda Russett would like to thank all who were involved in making the Presentation on Tuesday 3 May such a memorable occasion.



## Bert Kidd Retires

Mr Bert Kidd, yet another member of the ex-Nimrod Naval contingent, retired on Wednesday 27 April. Like many of his colleagues he spent "his war" on arctic convoys and while serving on HMS Jamaica took part in the sinking of the "Scharnhorst".

Bert first came to SNS with Southern County Cleaners at the time of the Nimrod shut down, and spent some years removing materials and clearing Magnet room and experimental halls. He then joined RAL and has since done an excellent job of looking after the creature comforts of the personnel operating from R51. Bert ran the mess room, organised the laundry for the whole area and the general fetching, carrying etc without which a section does not operate.

He was also responsible for the day to day running of the R55 rigging store, checking equipment, locating and preparing items for insurance inspection, and performing the day to day radiation monitoring of the experimental halls.

So, when it came to saying farewell to Bert his colleagues turned up in force to thank him for all his efforts on their behalf, and to wish him good luck in the future.



David Gray (left) and Bert Kidd display the special retirement card. 83RB2523

David Gray (Head of SNS) made the presentation of a cheque on behalf of all and thanked Bert. "We have very much appreciated your work for the Lab and your colleagues have very much appreciated your efforts on their behalf" he said. He also presented Mrs Kidd with a bouquet of flowers.

Bert thanked everyone for their kindness, for the gift and on behalf of his wife, for the flowers. "Thank you all so much" he ended.

## Tennis Club

Applications are invited from RAL Recreational Society members to join the newly - formed tennis club. The court, situated at the southern end of 'Red' carpark is now ready for use and is accessed from inside the perimeter fence near the Restaurant. Details of the club and application forms may be obtained from Arthur Dawkins (Chairman), Kim Ward (Treasurer), both in R25, or Derek Jones (Membership Secretary) in R63. Family membership is available if required provided the main applicant is a full member of the RAL Recreational Society.

## Thanks

Bert Kidd would like to thank all his colleagues for the generous cheque they presented to him on his retirement. "On behalf of my wife may I thank you also for the beautiful bouquet. Best wishes to you all and cheerio to those I missed", he writes.

## Southern Cleaner's Song

Tunnel 3 how I hate thee,  
Thou art such a bane to me,  
With thy lift that seems to be  
Never-ever-traffic free

Draughtsman, fitter's rigger's too,  
(Once I thought I spotted Koo,)  
Wander back and forth all day  
Laughing, fancy free, (and gay?)

But a tech (I'll call him Bob)  
Doesn't seem to have a job,  
Unless the work he has to do  
Is walking to and from R2.  
In his sponge-soled shoes (BC's)  
Only fit for climbing trees,  
And leaving marks upon the floor  
Like a bloody Yeti's spoor.

But still I try to keep my cool  
For after all I'm not a fool!  
I'm grateful for the job I've found  
At 30 (second time around,)   
But do I knash my teeth, and fret,  
And suck, and curse, and swear?

You bet!

## In Memory of Len

Mrs Vera Goodall wishes to pass on to her late husband's colleagues the thanks of 'The Friends of Sobell House' for the generous donation sent in memory of 'Len', which has enabled them to buy a special bed.

Your kind thought is greatly appreciated by us all and does much to encourage us in the work here, writes Sobell's treasurer.

## '100' Club

The £25 prize for the April draw was won by Mr C Bruce, R12, ticket no 9.

# Bulletin

Editor: Jean Banford  
Building R20  
Rutherford Appleton Laboratory  
Chilton, Didcot, Oxon OX11 0QX  
Abingdon (0235) 21900 ext 5484

Deadline for insertions: